

Express Mail No.: EV529804515US  
International Application No.: PCT/JP2003/016841  
International Filing Date: 25 December 2003  
Preliminary Amendment

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) A substance which can specifically interact with sugar chains.

2. (Original) A substance according to claim 1, wherein a level of the interaction between the substance and the sugar chains is such that a necessary dissociation energy when laser irradiation is performed in a MALDI-TOF is at least 5eV.

3. (Original) A substance according to claim 1, which is bindable to a support.

4. (Original) A substance according to claim 1, wherein the substance comprises a functional group which can react with an aldehyde group in a fluid.

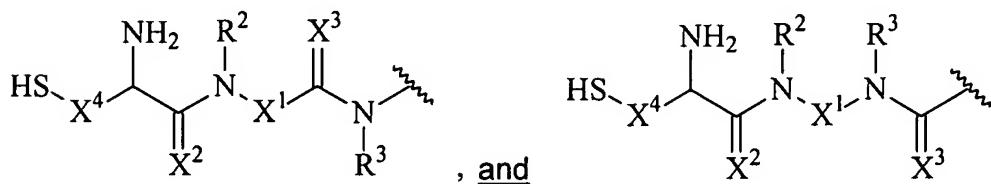
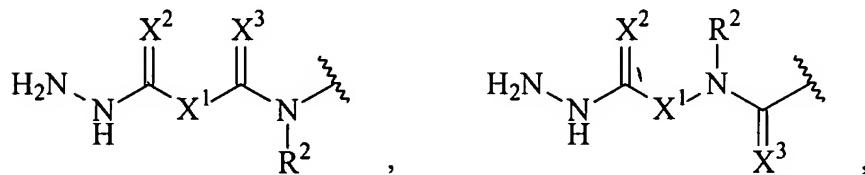
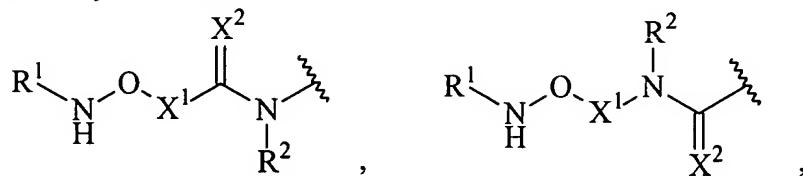
5. (Original) A substance according to claim 4, wherein the functional group is selected from a group consisting of a hydroxylamino group, a N-alkylhydroxylamino group, a hydrazide group, a thiosemicarbazide group and a cysteine residue.

6. (Original) A substance according to claim 1, wherein the interaction comprises a covalent bond.

7. (Original) A substance according to claim 1, wherein the interaction comprises oxime bond, hydrazone bond, thiosemihydrazone bond, perhydrothiazine ring formation or thiazolidine ring formation.

8. (Currently Amended) A substance according to claim 1, represented by formula (I): X-Y-Z (I)

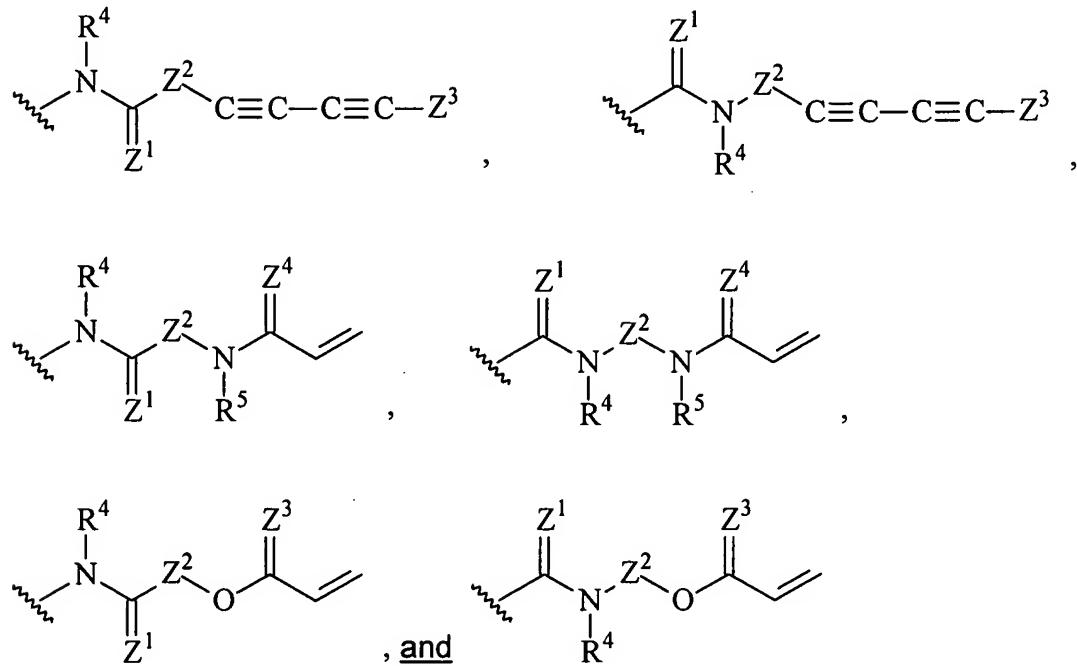
{wherein herein, X is selected from the group consisting of a group represented by formulae:



wherein (herein, X<sup>1</sup> is substituted or unsubstituted alkylene which may be substituted or substituted or unsubstituted alkenylene which may be substituted, X<sup>2</sup> is an oxygen atom or a sulfur atom, X<sup>3</sup> is an oxygen atom or a sulfur atom, X<sup>4</sup> is methylene or ethylene, R<sup>1</sup> is a hydrogen atom or alkyl, and R<sup>2</sup> and R<sup>3</sup> are independently a hydrogen atom or alkyl);

Y is single bond; optionally optionally substituted alkylene in which at least one group selected from the group consisting -O-, -S-, -S-S-, -N(R<sup>a</sup>)-C(=O)-, -C(=O)-N(R<sup>b</sup>)-, and phenylene which may be substituted, may intervene; or optionally optionally substituted alkenylene in which at least one group selected from the group consisting -O-, -S-, -S-S-, -N(R<sup>a</sup>)-C(=O)-, -C(=O)-N(R<sup>b</sup>)-, and phenylene which may be substituted, may intervene, (hereinwherein, R<sup>a</sup> and R<sup>b</sup> are independently a hydrogen atom or alkyl);

Z is a group represented by formulae selected from the group consisting of:



(hereinwherein, Z<sup>1</sup> is an oxygen atom or sulfur atom, Z<sup>2</sup> and Z<sup>3</sup> are independently optionally optionally substituted alkylene in which phenylene may

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intervene, or ~~optionally~~ optionally substituted alkenylene in which phenylene may intervene, Z<sup>4</sup> is an oxygen atom or a sulfur atom, R<sup>4</sup> and R<sup>5</sup> are independently a hydrogen atom or alkyl}).

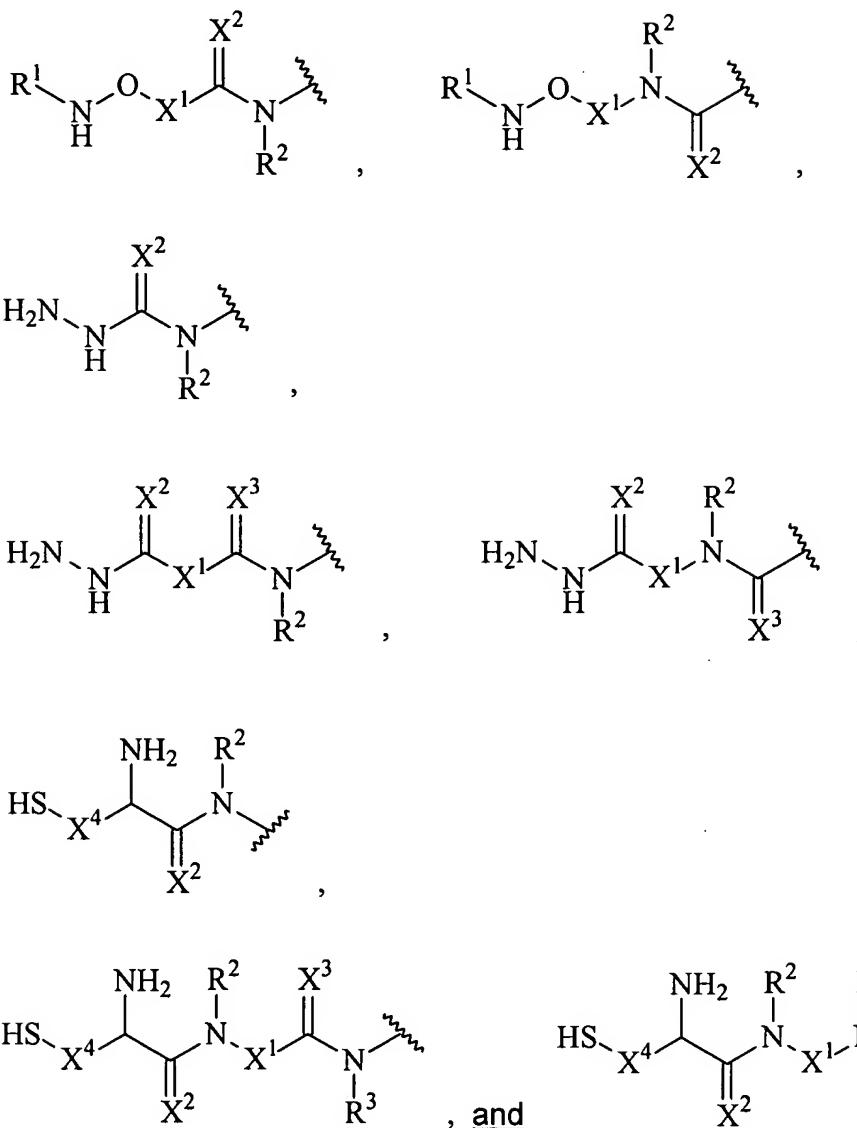
9. (Original) A substance obtained by polymerizing the substance according to claim 8.

10. (Original) A substance according to claim 9, wherein the polymerization is initiated by UV-irradiation.

11. (Original) A substance according to claim 9, obtained by polymerizing a monolayer obtained by physical adsorption of Z site of the compound represented by formula (I) to a support.

12. (Currently Amended) A substance according to claim 1, which is a copolymer obtained by polymerizing a compound represented by formula (I): X-Y-Z (I)  
~~hereinwherein, X is a group represented by formulae selected from the group consisting of:~~

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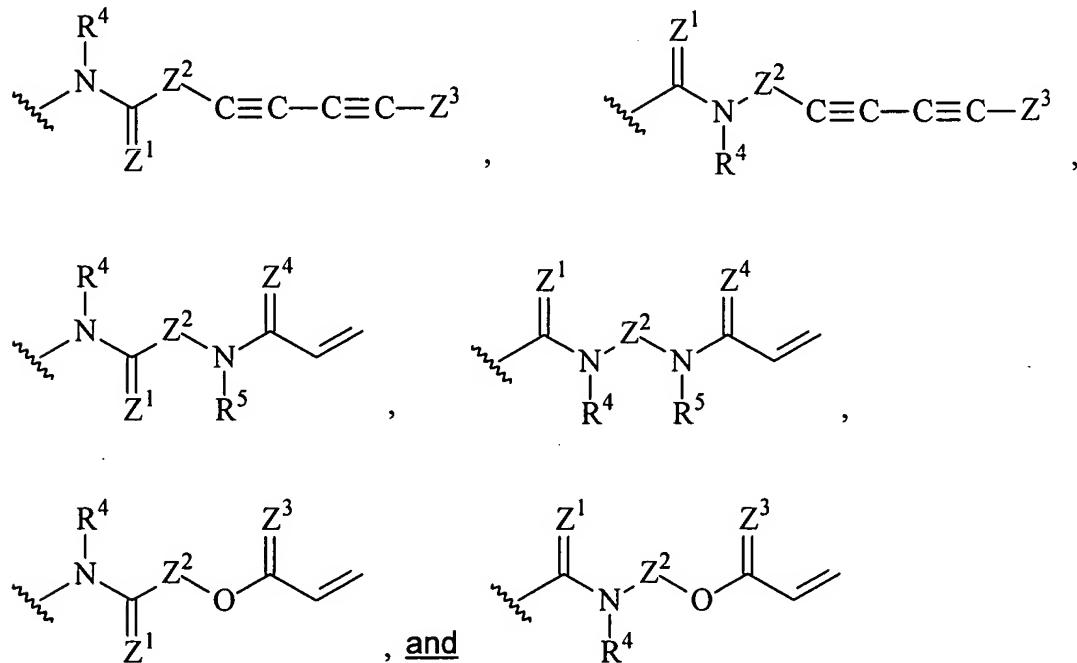
(hereinwherein,  $\text{X}^1$  is alkylene which may be substituted or alkenylene which may be substituted substituted or unsubstituted alkylene, substituted or unsubstituted alkenylene,  $\text{X}^2$  is an oxygen atom or a sulfur atom,  $\text{X}^3$  is an oxygen atom or a sulfur atom,  $\text{X}^4$  is methylene or ethylene,  $\text{R}^1$  is a hydrogen atom or alkyl, and  $\text{R}^2$  and  $\text{R}^3$  are independently a hydrogen atom or alkyl);

$\text{Y}$  is single bond; optionally optionally substituted alkylene in which at least one group selected from the group consisting of -O-, -S-, -S-S-, -N( $\text{R}^a$ )-C(=O)-, -C(=O)-N( $\text{R}^b$ )-, and phenylene which may be substituted, may intervene; or optionally

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optionally substituted alkenylene in which at least one group selected from the group consisting of  $-O-$ ,  $-S-$ ,  $-S-S-$ ,  $-N(R^a)-C(=O)-$ ,  $-C(=O)-N(R^b)-$ , and substituted or unsubstituted phenylene which may be substituted, may intervene (hereinwherein,  $R^a$  and  $R^b$  are independently a-hydrogen atom or alkyl);

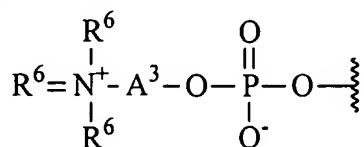
~~Z is a group represented by formulae selected from the group consisting of:~~



(hereinwherein,  $Z^1$  is an oxygen atom or sulfur atom,  $Z^2$  and  $Z^3$  are independently optionally optionally substituted alkylene in which phenylene may intervene, or optionally optionally substituted alkenylene in which phenylene may intervene,  $Z^4$  is an oxygen atom or a sulfur atom,  $R^4$  and  $R^5$  are independently a-hydrogen atom or alkyl); and

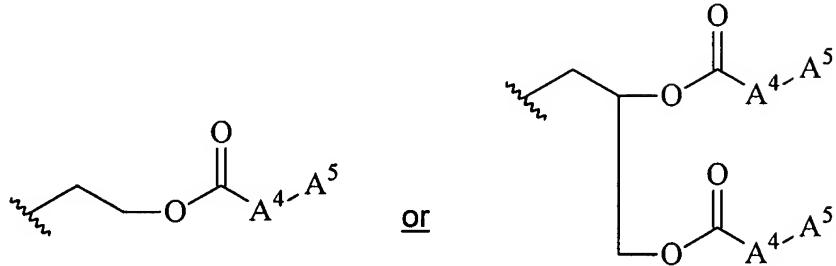
a compound represented by formula (II):  $A^1-A^2(II)$

(hereinwherein,  $A^1$  is  $H(OCH_2CH_2)_nO^-$  ( $n$  is an integer from 1 to 5) or a group represented by a formula:

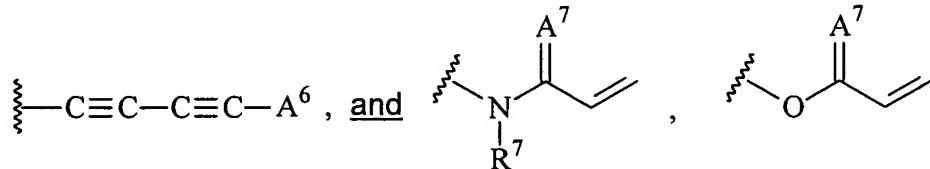


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(hereinwherein,  $A^3$  is alkylene, and  $R^6$  is alkyl); and  
 $A^2$  is a group represented by formulae:



(hereinwherein,  $A^4$  is alkylene, and  $A^5$  is represented by formulae selected from the group consisting of:



{ $A^6$  is alkylene,  $A^7$  is an oxygen atom or a sulfur atom, and  $R^7$  is a hydrogen atom or alkyl)}].

13. (Original) A substance according to claim 12, wherein the polymerization is initiated by UV-irradiation.

14. (Original) A substance according to claim 12, wherein mole fraction of the compound represented by formula (II) is 0.1 to 0.9.

15. (Original) A substance according to claim 12, obtained by polymerizing monolayers obtained by physical adsorption of Z site of the compound represented by formula (I) and  $A^2$  site of the compound represented by formula (II) to a support.

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16. (Original) A substance according to claim 12, obtained by polymerizing water dispersion or a cast film of a mixture comprising the compound represented by formula (I) and the compound represented by formula (II).

17. (Original) A sugar chain-trapping carrier, comprising a substance which can specifically interact with sugar chains.

18. (Original) A sugar chain-trapping carrier, in which the substance according to claim 9 or 12 is transferred to a support.

19.-43. (Cancelled)